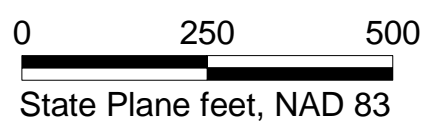


Figure 1-13

November 1961 Aerial Photograph, Range 23, Parcel 79Q



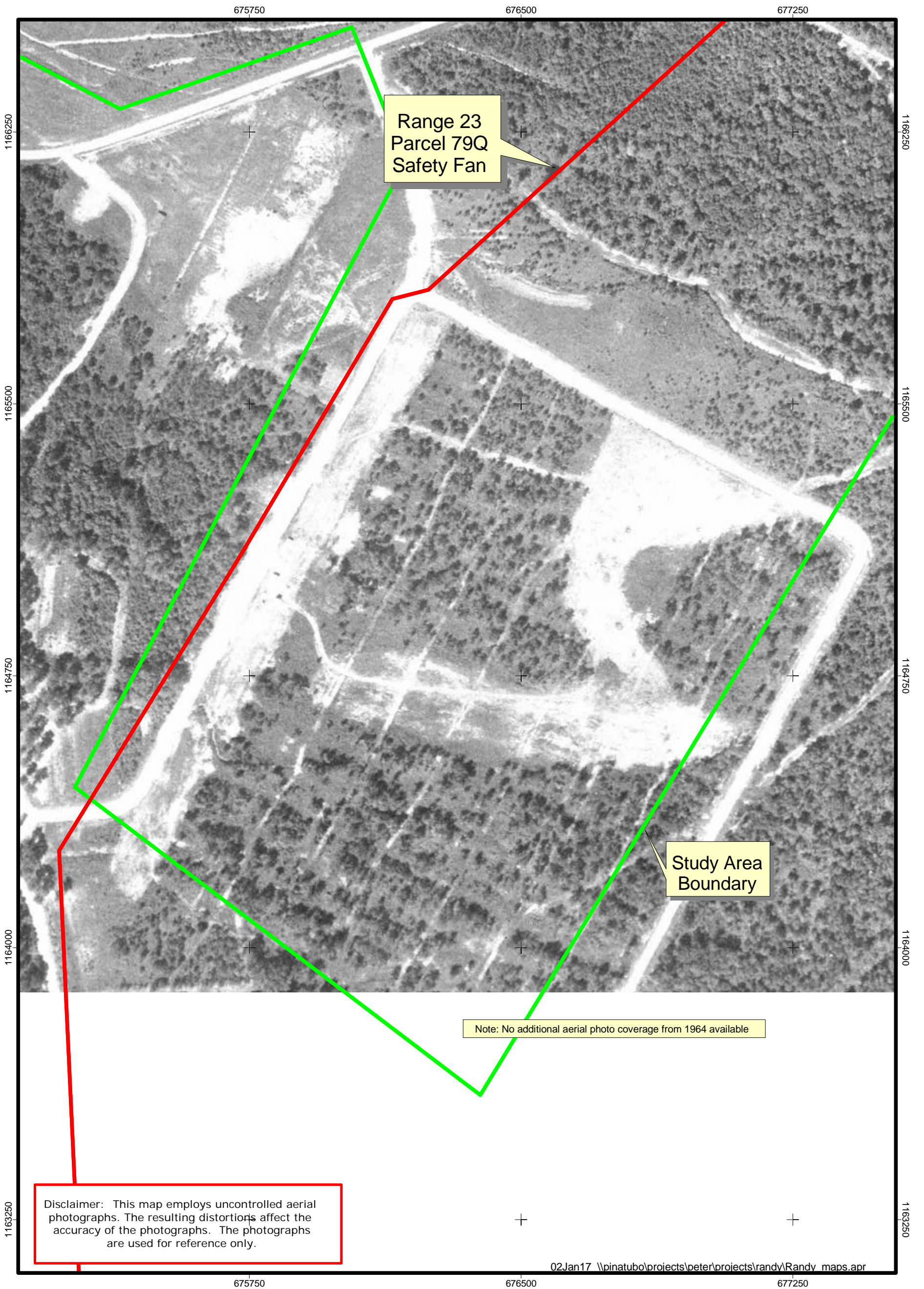
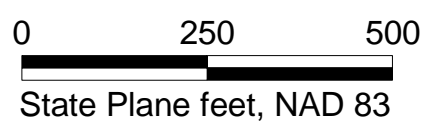


Figure 1-14

September 1964 Aerial Photograph, Range 23, Parcel 79Q



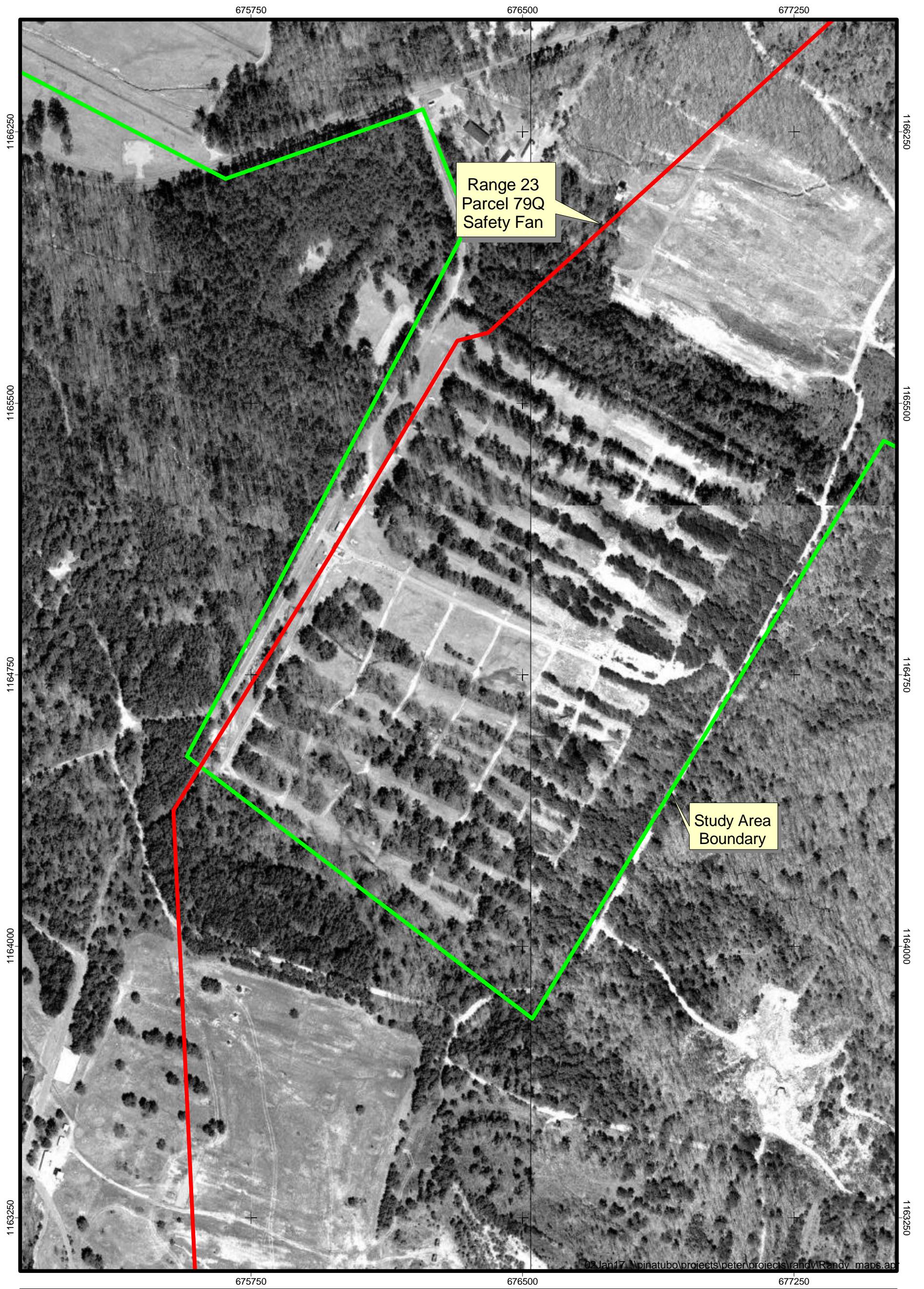
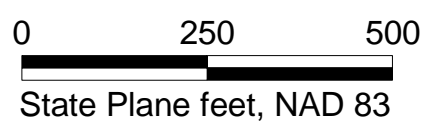


Figure 1-15

March 1998 Aerial Photograph, Range 23, Parcel 79Q



though no mounds are visible. The orientation of the roads and the firing lanes are consistent with the Range 23 site map layout (Figure 1-12).

Range Features. Range 23 features include 16 separate firing lanes with firing points consisting of foxholes, sandbags and scorer's tables (Army Regulation 350-2). Each firing lane has a series of six mounds where pop up targets would present themselves during weapons training (Figure 1-12). The mounds are located at 50, 100, 150, 200, 250, and 300 meters from the firing point. These mounds and the area behind the mounds form the main impact area for the range. Recent historical evidence (since 1951) indicates that the range orientation has always remained the same with regard to the orientation of the firing lanes to the southeast, away from the main cantonment. The main area of investigation of this range are the target mounds in each lane and the potential impact zone located beyond the 300 meter mounds and on the western slopes of Holloway Hill approximately 1,500 to 2,000 feet to the southeast. Bullet channels containing bullets and fragments have been observed north and south of the range border road east of Range 23.

Additional visual surveys will be conducted to better define the extent of the impact zone in this direction. For the purposes of this EE/CA investigation, the study area where firing points, lanes, and target mounds are located is defined as approximately 99.5 acres (including the possible hillside impact zone of 46.4 acres). The range safety fan (Figure 1-10) extends to the southeast and covers an area of approximately 4,539 acres.

Range 23 is located adjacent to Snap Lane west of the parcel. Three tributaries of Ingram Creek are present at the range, carrying hillside runoff water from the possible impact area behind the range through the firing lane area northwest under Snap Lane and towards Cane Creek. Two of these tributaries are seasonal, while the stream that flows from the central portion of Range 23 generally contains water all year. The elevation of Range 23 increases from approximately 850 to 900 feet msl at the firing lane area, steeply rising beyond the 300-meter mounds to 1,050 feet at the top of the unnamed hill in the possible impact zone to the southeast.

1.2.4 Range 25, Known Distance Range, Parcel 83Q, and Main Post Impact Area, Parcel 118Q-X

In August 2001 a separate work plan was prepared to address Range 25, Parcel 83Q and the Main Post Impact Area, Parcel 118Q-X (IT, 2001). In that work plan, the site history, descriptions, and sampling and analysis for the firing line and impact zones of the range are discussed, however sampling to address the range safety fan was not. This work plan contains a

discussion of the safety fan sampling for Range 25. This safety fan data will be added to the EE/CA report along with the firing line and impact zone sampling and analytical data described in the August 2001 work plan.

The Range 25 safety fan (Figure 1-16) extends northeast of the range firing line and impact zone area and comprises a total of 1,713 acres.

1.2.5 Range 26, Live Fire and Maneuver Range, Parcel 84Q-X

Range 26 is discussed in both the EBS and ASR. The study and safety fan areas of Range 26 are shown on Figure 1-17 and Figure 1-10, respectively. The EBS states Range 26 was first displayed on the 1959 map prepared by the U.S. Army Map Service. FTMC Range Control records show continuous range usage from 1976 to base closure using M-16 for day and night fire and maneuver training. According to the ASR, the prior use of this area was the Infiltration Course (OA-58). The Infiltration Course was first shown on the 1949 aerial photograph map and labeled "R-26" on the 1958 and 1967 maps. This range was abandoned in 1974. The ASR also points out that Range 26 is constructed within the World War I Artillery Impact Area (OA-29 and OA-39). The Infiltration Course appears on ASR maps Plate 5, Plate 6, and Plate 7.

Aerial Photographs. Aerial photographs through 1973 only show unimproved roads running through dense woods in this area and no obvious signs of training areas or development. The December 1982 aerial photograph shows Range 26, but the image is not clear. Slightly more detail is found on the February 1994 photograph and the March 1998 photograph (Figure 1-18) which shows the range is divided into two sections: a partially wooded maneuver area to the west and an open, flat firing line with multiple firing points to the east. Two unimproved roads separate these areas and a set of faint parallel roads (traversing these areas northwest to southeast) further divides the maneuver area and firing lane areas into a series of four lanes. At the end of each firing lane is a pop up target location. Beyond the pop up targets is a dividing road and a large potential impact zone that is partially wooded but also heavily eroded in places. Approximately 500 feet further downrange from the dividing road at the end of the firing lanes is a group of four parked vehicles that are heavily damaged from small arms fire. These photographs confirm the same surface features and orientation shown on Figure 1-17.

Range Features. In the Range 26 maneuver area, personnel would advance along four, 30-meter wide by 135-meter long lanes with 10-meter wide buffer zones between each lane (Army Regulation 350-2). At the end of the maneuver area, the trainees would cross the dividing road and encounter a series of fixed firing points marked by stacked railroad ties. From behind

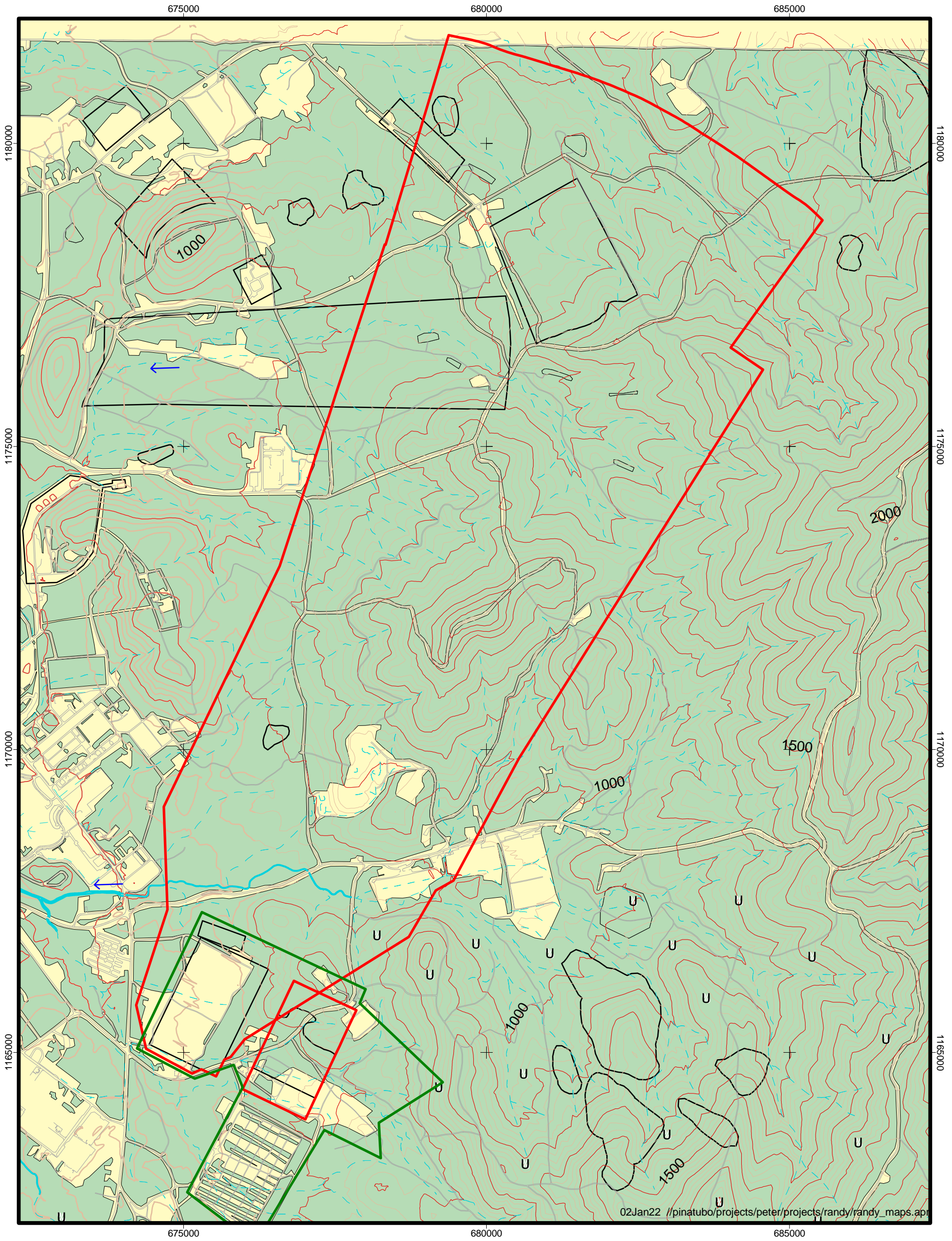
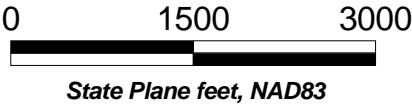


Figure 1-16
Safety Fan Map,
Range 25, Parcel 83Q

Legend	
U	Former XRF Location
—	25' Contour
—	100' Contour
—	Roads
←	Flow Direction
—	Creeks
- - -	Intermittent/ Surface Drainage
[Green Outline]	Study Area
[Red Outline]	Safety Fan
[Black Outline]	Impact Area
[Green Fill]	Woods



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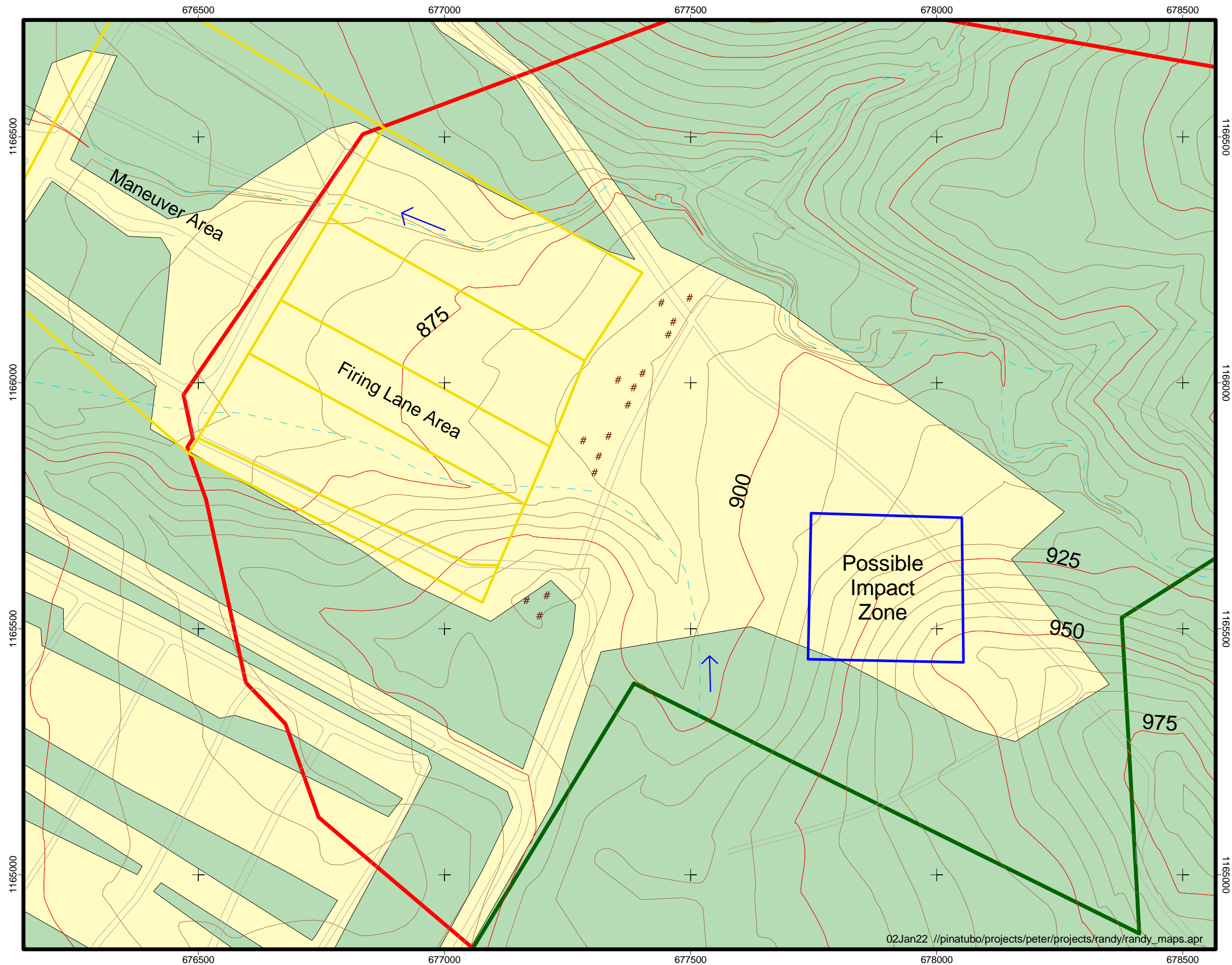
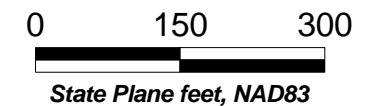


Figure 1-17
Study Area Map
Range 26
Parcel 84Q-X

Legend

- # Popup Target Location
- Maneuver Area
- Roads
- Flow Direction
- Intermittent/
Surface Drainage
- 25' Contour
- 5' Contour
- Safety Fan
- Study Area
- Woods
- Not Wooded



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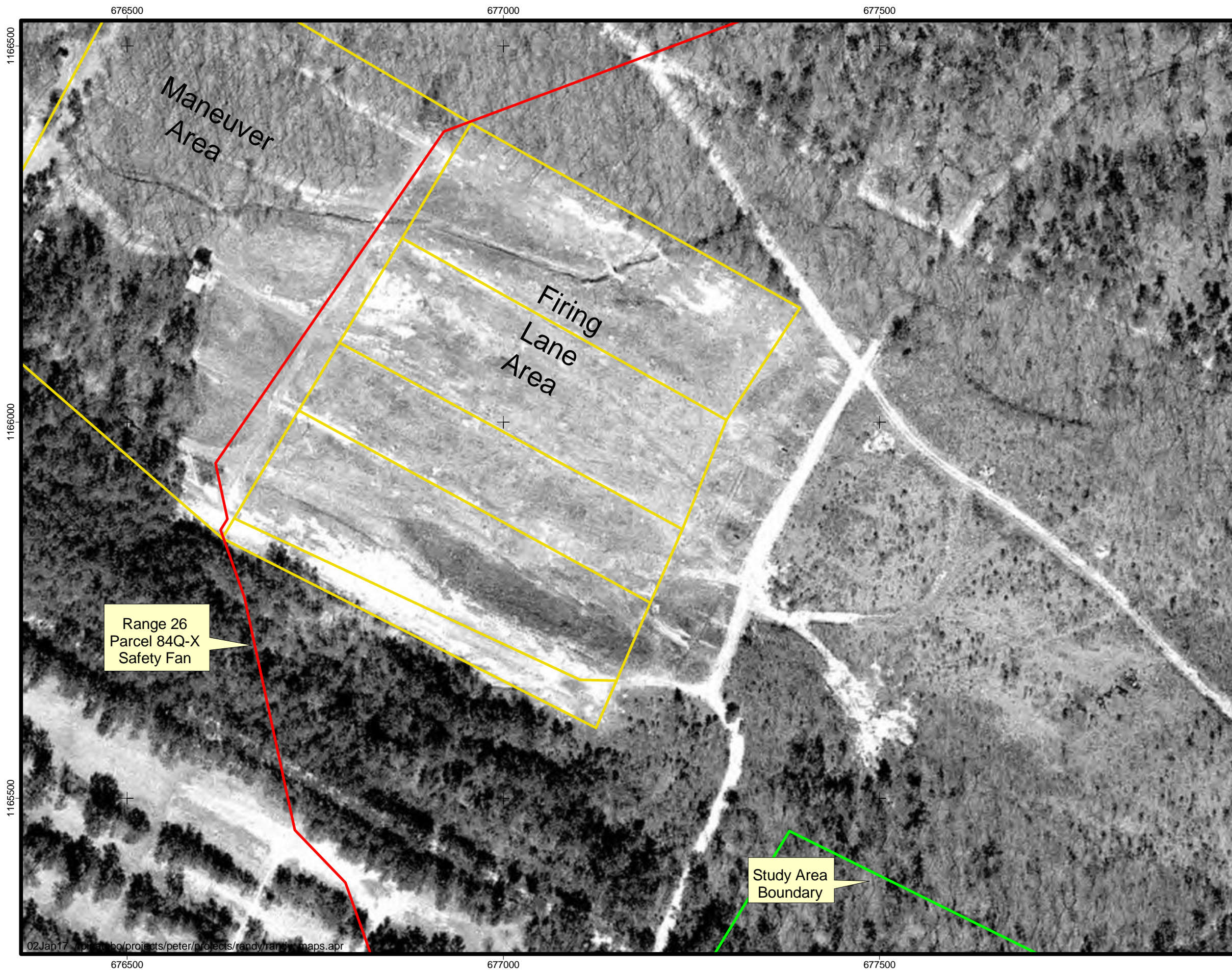


Figure 1-18

March 1998 Aerial Photograph,
Range 26, Parcel 84Q-X

Legend

-  Safety Fan
-  Study Area
-  Maneuver Area

0 150 300

State Plane feet, NAD83



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these firing points, the trainees would direct their fire on a series of three to four pop up targets located at the end of the each lane. Recent historical evidence (since 1976) indicates that the range orientation has always remained to the same with regard to the direction of fire to the southeast, away from the main cantonment. The main areas of investigation of this range are the pop up target locations at the end of each lane and in the potential hillside impact zone beyond the pop up targets. Bullet channels were not observed at the Range 26 pop up target locations in recent site walks; however, bullet fragments and channels were evident further downrange.

A natural hillside rises approximately 75 feet above the firing lane elevation about 500 to 1,000 feet down range (southeast) and forms the main impact zone. Four parked vehicles densely covered with bullet holes are located on this hillside. Bullet channels and fragments are found all around the vehicles. Additional visual surveys and sampling will be conducted to better define the extent of the impact zone in this direction. For the purposes of this EE/CA investigation, the study area where firing lanes and impact zones are located is defined as approximately 18.3 acres. The range safety fan (Figure 1-10) extends to the southeast covering an area of approximately 1,267 acres.

Range 26 is accessed via a gravel driveway that connects the range to Snap Lane near the intersection of Snap Lane and Bains Gap Road northwest of the parcel. Two intermittent tributaries of Ingram Creek collect runoff from the hillsides to the south and northeast (in the possible impact area) and flow northwest traversing the firing lanes in two locations. The overall elevation of Range 26 firing lanes gradually increases from approximately 875 to 900 feet above msl then increases from 900 feet to 985 feet above msl in the hillside impact zone approximately 1,000 feet downrange of the firing lines.

1.2.6 Former Range 25 East, Parcel 223Q

This historical range is discussed in the EBS. The study area of Range 25 East is shown on Figure 1-19 and it has no safety fan. The EBS states Range 25 East is only shown on the General Map of FTMC (Office of the Post Quartermaster, 1937). According to the EBS, no other documentation for Range 25 East exists and the specific use and dates of operation for this range are unknown. It was presumed in the EBS that this range had the same layout and orientation as Range 25 and that the same rifle caliber weapons were fired here. The ASR discusses the Bandholtz Rifle Range (OA-37) and states that historical maps show that at one time Range 25 was larger and had a different orientation. This assertion may suggest the existence Range 25 East.

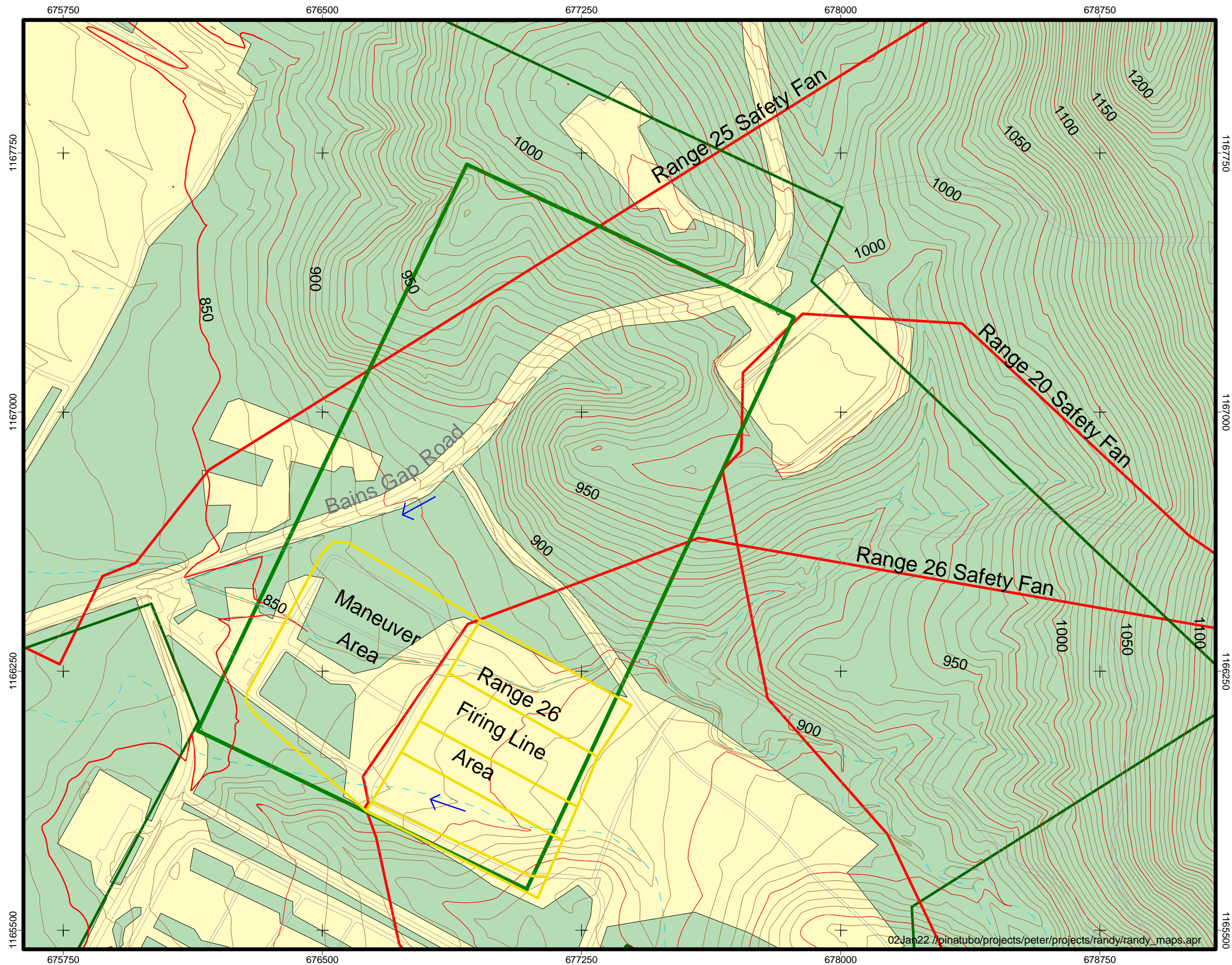


Figure 1-19

**Study Area Map
Former Range 25 East
Parcel 223Q**

Legend

- Maneuver Area
- Roads
- 25' Contour
- 5' Contour
- Flow Direction
- Intermittent/
Surface Drainage
- Safety Fan
- Range 26 Study Area
- Study Area
- Woods
- Not Wooded



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State Plane feet, NAD83

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